1-3, in computer readable form, and a paper copy of the sequence information. The computer readable sequence listing was prepared through use of the software program "Patent-In" provided by the PTO. The information contained in the computer readable disk is identical to that of the paper copy. This amendment contains no new matter. Applicant submits that this amendment, the accompanying computer readable sequence listing, and the paper copy thereof serve to place this application in a condition of adherence to the rules 37 C.F.R. § 1.821-1.825.

Please direct any calls in connection with this application to the undersigned at (415) 781-1989.

Respectfully submitted,

FLEHR HOHBACH TEST

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The paragraph starting on page 117, line 9, has been amended as follows:

-Using the above techniques, and standard nucleic acid synthesis, the uridine with the phenyl-acetylene conductive polymer of Example 1 was incorporated at the 3' position to form the following nucleic acid: (SEQ ID NO: 1) ACCATGGACTCAGCU-conductive polymer of Example 1 (hereinafter "wire-1").

The paragraph starting on page 120, line 17, has been amended as follows:

-Hybridization efficiency was determined using ^{32}P complementary and noncomplementary 15 mers corresponding to the wire-1 sequence (SEQ ID NO: 1). The electrodes were incubated with 50 microliters of each of the labelled non-complementary (herein "A5") or complementary (herein "S5") target sequences applied over the entire electrode in 1XSSC as depicted in Table 1. The electrodes were then incubated for 1-2 hours at room temperature in a moist chamber, and rinsed as described above. The amount of radiolabelled DNA was measured for each electrode in a scintllation counter, and the electrodes were dried and exposed to X-ray film for 4 hours.-

The paragraph starting on page 124, line 11, has been amended as follows:

-The following nucleic acid composition was made using the techniques above: (SEQ ID NO: 2) 5'-ACCATGGAC[**UBF**]CAGCU-conductive polymer (Structure 5 type, as outlined above) herein "wire-3", with UBF made as described above. Thus, the second electron transfer moiety, ferrocene, is on the sixth base from the conductive oligomer.-

The paragraph starting on page 125, line 19, has been amended as follows:

-Sample 1, labeled herein as "Fc-alkane", contained a mixed monolayer of insulator-2 and insulator-1. Sample 2, labeled herein as "Fc-amido-alkane", contained a mixed monolayer of insulator-2 and a derivative of insulator-1 which has an amido attachment of the ferrocene to the alkane. Sample 3, labeled herein as "Fc-wire", contained a mixed monolayer of insulator-2 and wire-2. Sample 4 was the same as Sample 3, with the exception that a new in situ deprotection step was used, described below. Sample 5, labeled herein as "ssDNA" (AGCTGAGTCCA(UBF)GGU-conductive oligomer) (SEQ ID NO: 3), contained a mixed monolayer of insulator-2 and wire-3. Sample 6, labeled herein as "dsDNA", contained a mixed monolayer of insulator-2 and wire-3, wherein the complement of wire-3 was hybridized to form a double stranded wire-3. Sample 7 was a solution of ferrocene in solution. As is shown herein, the rate of electron transfer, from fast to slower, is as follows: Sample 3 > Sample 6 > Sample 1 > Sample 2 > Sample 5. Generally, Sample 1 models ssDNA, and Sample 3 models dsDNA.-

On page 135, immediately preceding the claims, the enclosed text entitled "SEQUENCE LISTING" was inserted into the text.

Amdt 1B

SEQUENCE LISTING

<110> Kayyem, Jon Faiz
O'Connor, Stephen D.
Gozin, Michael
Yu, Changjun
Meade, Thomas J.

<120> ELECTRODES LINKED VIA CONDUCTIVE OLIGOMERS TO NUCLEIC ACIDS

<130> A-63761-5/RFT/RMS/RMK

<140> US 09/557,577
<141> 2000-04-21

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<151> 1997-08-14

<150> US 08/873,978
<151> 1997-06-12

<150> US 08/743,798
<151> 1996-11-05

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